

REMARKS

The Official Action mailed December 11, 2007, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Accordingly, the Applicant respectfully submits that this response is being timely filed.

The Applicant notes with appreciation the consideration of the Information Disclosure Statement filed on April 13, 2004.

Claims 1-121 were pending in the present application prior to the above amendment. Claims 1-7, 32-35, 50-61 and 100-115 have been amended to better recite the features of the present invention, and new dependent claims 122-130 have been added to recite additional protection to which the Applicant is entitled. Accordingly, claims 1-130 are now pending in the present application, of which claims 1-7, 100 and 101 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

The Official Action rejects claim 1 under the doctrine of obviousness-type double patenting over the combination of claim 1 of U.S. Patent No. 6,724,012 to Kimura and U.S. Patent No. 6,480,305 to Resman. The Applicant respectfully submits that amended independent claim 1 of the subject application is patentably distinct from claim 1 of the Kimura '012 patent and Resman.

As stated in MPEP § 804, under the heading "Obviousness-Type," in order to form an obviousness-type double patenting rejection, a claim in the present application must define an invention that is merely an obvious variation of an invention claimed in the prior art patent, and the claimed subject matter must not be patentably distinct from the subject matter claimed in a commonly owned patent. Also, the specification and drawings of the patent principally underlying the double patenting rejection are not considered prior art.

The Applicant respectfully traverses the obviousness-type double patenting rejection. Independent claim 1 of the present application has been amended to recite a

semiconductor device comprising: a pixel portion comprising a plurality of pixels; a first circuit; and a second circuit, wherein each of the plurality of pixels comprises a sensor portion and a liquid crystal element portion, wherein the first circuit is configured to output a timing signal to the second circuit, and wherein the second circuit is configured to select one of the sensor portion and the liquid crystal element portion, and output a pulse signal based on the timing signal to the one of the sensor portion and the liquid crystal element portion. These features are supported in the present specification, for example, by Embodiment Mode 2.

The Applicant respectfully submits that the alleged combination of claim 1 of Kimura '012 and Resman do not teach or suggest the above-referenced features of amended claim 1 of the present application.

It is respectfully submitted that the claims of the present application are not a timewise extension of the invention as claimed in the Kimura '012 patent, either alone or in combination with Resman. Reconsideration and withdrawal of the obviousness-type double patenting rejections are requested.

The Official Action rejects claims 1-7, 32-49, 72-103 and 116-121 as obvious based on the combination of U.S. Patent No. 6,404,137 to Shodo and Resman. The Applicant respectfully submits that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present application, as amended.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some reason to do so found either explicitly or implicitly in the references themselves or in the knowledge generally

available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims, as amended.

Several of the claims have been amended for clarity and to address minor matters of form. Specifically, in claims 1-7 and 100-103, "signal line driver circuit" was changed to "first circuit," and "output switching circuit" was changed to "second circuit." As noted in greater detail below, the features of the first and second circuits are set forth in greater detail in subsequent portions of each claim.

Also, in claims 1-7, 100 and 101, "outputs" is changed to "is configured to output" to clarify the claims. In dependent claims 4, 5, 7, 50-61, 100-103 and 112-115, "electrically" is inserted before "connected" to clarify the claims. Claims 104-111 have been amended to address a potential antecedent basis issue. Specifically, dependent claims 104, 106, 108 and 110 have been amended to depend from claim 102 instead of from claim 100, and dependent claims 105, 107, 109 and 111 have been amended to depend from claim 103 instead of from claim 101. In claims 4 and 5, "one of the first logical circuit and the second circuit" is changed to "one of the first logical circuit and the second logical circuit" for consistency.

Further, independent claims 1, 6, 7, 100 and 101 and dependent claims 32-35 have been amended to recite additional features, which are believed to distinguish the present claims from the prior art. Specifically, claim 1 has been amended to recite that "the second circuit is configured to select one of the sensor portion and the liquid crystal element portion, and output a pulse signal based on the timing signal to the one of the

sensor portion and the liquid crystal element portion," which is supported in the present specification, for example, by Embodiment Mode 2.

Claims 2 and 3 have been amended to recite that "the second circuit comprises a first logical circuit and a second logical circuit," and that "one of the first logical circuit and the second logical circuit output is configured to output a first signal to the sensor portion." Similarly, claims 4 and 5 have been amended to recite that "the second circuit comprises a first logical circuit and a second logical circuit," and that "one of the first logical circuit and the second logical circuit output is configured to output a first signal to the first TFT."

Claim 6 has been amended to recite that "the first circuit is configured to output a timing signal to the first logical circuit and to the second logical circuit," and that "the second circuit is so configured that, when one of the first logical circuit and the second logical circuit outputs an off signal to one of the first TFT and second TFT, the other of the first logical circuit and the second logical circuit outputs a pulse signal to the other of the first TFT and the sond TFT," which is supported in the present specification, for example, by page 12, line 9, to page 13, line 11, and Embodiment Mode 2.

Claim 7 has been amended to recite that "a first signal line is electrically connected to the first logical circuit, and a second signal line is electrically connected to the second logical circuit," and that "the second circuit is so configured that, when one of the first logical circuit and the second logical circuit outputs an off signal to one of the first TFT and the second TFT, the ofther of the first logical circuit and the second logical circuit outputs a pulse signal to the other of the first TFT and the second TFT," which is supported in the present specification, for example, by Embodiment Mode 2. Also, at this opportunity, in claim 7, "the light emitting element portion" was changed to "the liquid crystal element portion" for consistency.

Dependent claims 32-35 were amended to recite that "the first logical circuit is electrically connected to the first TFT through the first signal line," that "the second logical circuit is electrically connected to the second TFT through a second signal line"

and that "the second signal line is a selection signal line, and the first signal line is a sensor selection signal line." These features are supported in the present specification, for example, by Figures 2A, 2B and 7.

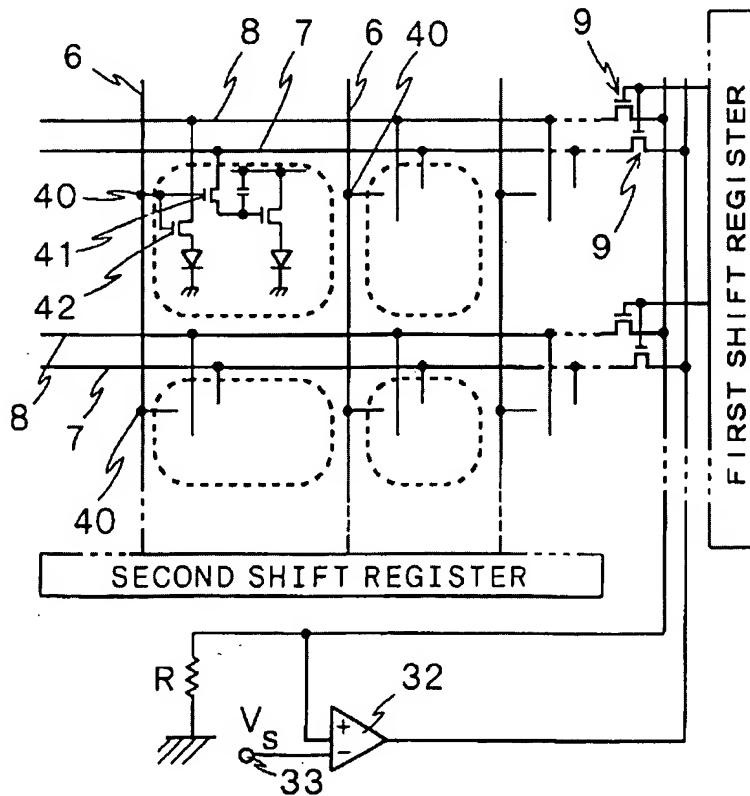
Claim 100 has been amended to recite that "the first circuit is configured to output a timing signal to the second circuit," and that "the second circuit is configured to select one of the sensor portion and the light emitting element portion (or liquid crystal element portion) depending on a control signal, and output a pulse signal based on the timing signal to one of the sensor portion and the light emitting element portion (or the liquid crystal element portion)," which is supported in the present specification, for example, by page 12, line 9, to page 13, line 11, and Embodiment Mode 2. Similarly, claim 101 has been amended to recite that "the first circuit is configured to output a timing signal to the second circuit," and that "the second circuit is configured to select one of the sensor portion and the liquid crystal element portion depending on a control signal, and output a pulse signal based on the timing signal to one of the sensor portion and the liquid crystal element portion."

For the reasons provided below, Shodo and Resman, either alone or in combination, do not teach or suggest the above-referenced features of the present invention.

As noted in greater detail above, claim 1 recites that a second circuit is configured to select one of the sensor portion and the liquid crystal element portion, and output a pulse signal based on the timing signal to the one of the sensor portion and the liquid crystal element portion; claims 2-5 recite that a second circuit comprises a first logical circuit and a second logical circuit, and one of the first logical circuit and the second logical circuit is configured to output a first signal to a sensor portion or to a first TFT in a sensor portion; claims 6 and 7 recite that a second circuit comprises a first logical circuit and a second logical circuit, and the second circuit is so configured that, when one of the first logical circuit and the second logical circuit outputs an off signal to one of a first TFT and a second TFT, the other of the first logical circuit and the second

logical circuit outputs a pulse signal to the other of the first TFT and the second TFT; and claims 100 and 101 recite that a second circuit is configured to select one of a sensor portion and a light emitting (or liquid crystal) element portion depending on a control signal, and output a pulse signal based on a timing signal to the one of the sensor portion and the light emitting (or liquid crystal) element portion.

In Shodo, a switching element 42, a monitor line 8, and a switching element 9 connected to the monitor line 8 (Figure 2) are provided for outputting the monitor output of the light receiving element 2 (column 4, lines 30-48). The Official Action asserts that Shodo teaches "an output switching circuit (Shodo, Fig. 2 element 9)" (page 4, Paper No. 20071205). That is, the Official Action appears to be taking the position that the switching element 9 in Figure 2 of Shodo (reproduced below) corresponds to the output switching circuit of the present claims.



The Applicant respectfully disagrees and traverses the assertions in the Official Action.

The switching element 9 of Shodo does not output a signal to a sensor portion. Resman does not cure this deficiency in Shodo. Resman is relied upon to allegedly teach a "backlight light emitting element" (page 6, Paper No. 20071205). However, Shodo and Resman, either alone or in combination, do not teach or suggest that the switching element 9 of Shodo could or should output a signal to a sensor portion. Therefore, the Applicant respectfully submits that the alleged combination of Shodo and Resman does not teach or suggest the above-referenced features of claims 1-7, 100 and 101.

Since Shodo and Resman do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

The Official Action rejects dependent claims 8-31, 50-61 and 104-115 as obvious based on the combination of Shodo, Resman, and U.S. Patent No. 7,196,699 to Kubota. The Official Action rejects dependent claims 62-64 as obvious based on the combination Shodo, Resman, JP 11-125841 to Chiyou and U.S. Patent No. 6,246,180 to Nishigaki. The Official Action rejects dependent claims 65-71 as obvious based on the combination of Shodo, Resman, and Chiyou.

Please incorporate the arguments above with respect to the deficiencies in Shodo and Resman. Kubota, Chiyou and Nishigaki do not cure the deficiencies in Shodo and Resman. The Official Action relies on Kubota, Chiyou and Nishigaki to allegedly teach the features of some of the dependent claims. Specifically, the Official Action relies on Kubota to allegedly teach "the use of NAND, AND, NOR or OR gates as switching devices for outputs to the shift registers" and "a specialized shift register circuit with a switching section wherein the output terminals of all switching circuits are connected to at least one inverter circuit" (page 8, Paper No. 20071205), on Chiyou to allegedly teach "a sensor TFT, a sensor driver TFT and a sensor reset TFT" (pages 9 and 10, Id.), and on Nishigaki to allegedly teach "a reset TFT" (page 9, Id.). However,

Shodo, Resman, Kubota, Chiyou and Nishigaki, either alone or in combination, do not teach or suggest the features of amended independent claims 1-7, 100 and 101 or that Shodo and Resman should be modified to include any of the features of amended independent claims 1-7, 100 and 101. Since Shodo, Resman, Kubota, Chiyou and Nishigaki do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

New dependent claims 122-130 have been added to recite additional protection to which the Applicant is entitled. The features of claims 122-130 are supported in the present specification, for example, by page 12, lines 9-16. For the reasons stated above, the Applicant respectfully submits that new claims 122-130 are in condition for allowance.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

  
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